

# SmartFusion Evaluation Kit

## Quickstart Card

### Kit Contents – A2F-EVAL-KIT-2

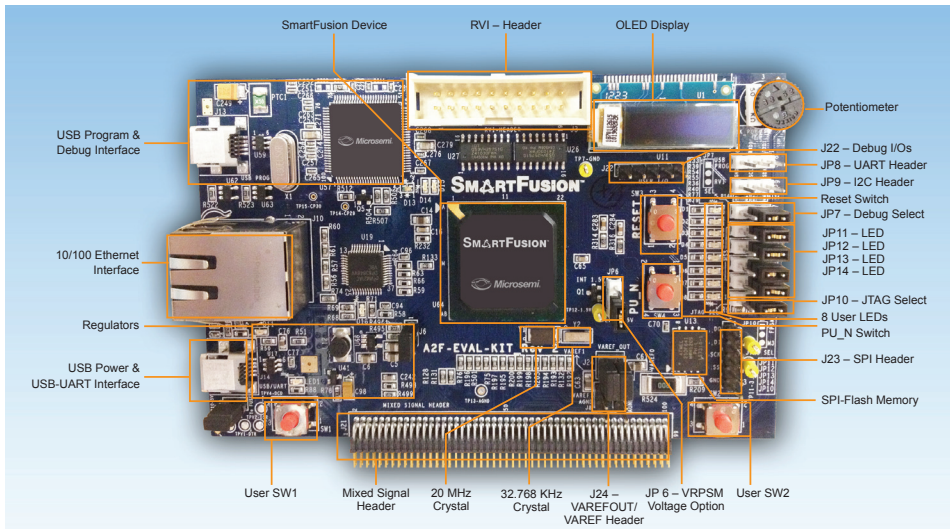
Quantity	Description
1	SmartFusion <sup>®</sup> Evaluation board with A2F200M3F-FGG484
2	USB 2.0 A to mini-B cable

*Note: The A2F-EVAL-KIT-2 is RoHS compliant.*

## Overview

Microsemi's SmartFusion Evaluation Kit provides designers access to SmartFusion customizable system-on-chip (SoC) FPGAs, the only devices that integrate an FPGA, an ARM<sup>®</sup> Cortex™-M3 processor, and programmable analog, offering full customization, IP protection, and ease-of-use.

The device contains on-chip flash and on-chip SRAM memory, as well as additional SPI flash memory on the board.



## Jumpers Settings, Programming, and Debug

Prior to powering up the A2F-EVAL-KIT-2 for the first time, make sure the jumpers are in the following positions:

Jumper	Location	Purpose	Setting
J6	2 pins next to the Ethernet jack	3.3 V Regulator	1–2
JP6	Next to the PU_N switch	VRPSM voltage option	2–3
JP7	Right side of board	Input selecting option	1–2
JP10	Right side of board	JTAG programming option	1–2
JP11	Right side of board	Access to LED5	1–2
JP12	Right side of board	Access to LED6	1–2
JP13	Right side of board	Access to LED7	1–2
JP14	Right side of board	Access to LED8	1–2
J24	Bottom right side of board	VAREFOUT/ VAREF Header	1–2, 3–4

Jumpers JP7 and JP10 control the programming and debug interaction with the SmartFusion device. JP8 is the UART header and JP9 is the I2C header. Jumpers JP11–JP14 control LED access. J23 is the SPI header. The UART and circuitry on the top left of the board replicate the functionality of the Microsemi standalone low-cost programming stick (LCPS) and provide the Microsemi programming and debug interface used with the FlashPro programming software and SoftConsole Integrated Design Environment (IDE) software. The RVI header on the board is used for communication through J-LINK or U-LINK for Keil™ and IAR Systems. The table below indicates how these settings can be used.

Function	Software	Connector	JP7	JP10
Debug Cortex-M3	SoftConsole	J13 – USB PROG	1–2 (USB PROG)	2–3 (M3)
Debug Cortex-M3	Keil or IAR	J3 – RVI-HEADER	2–3 (RVI)	2–3 (M3)
Debug FPGA	Identify	J13 – USB PROG	1–2 (USB PROG)	1–2 (FPGA)
Programming	FlashPro	J13 – USB PROG	1–2 (USB PROG)	1–2 (FPGA)

**Note:** *USB to UART for HyperTerminal is connected through the second UART connection and is not affected by these settings.*

For a full description of all jumpers, refer to the *SmartFusion Evaluation Kit User's Guide*.

## Running the Demo Design

The SmartFusion Evaluation Kit comes with a preloaded demo design. If the board is programmed correctly, you will see the following message displayed on the OLED:



**Note:** You may have to press the RESET or PUB switch to activate the demo design. The OLED will then update to show the following:



If the board is not preprogrammed, the programming file and the source files for the demo are provided on the SmartFusion Evaluation Kit page. The programming file for the demo is provided standalone as a zip file under the SmartFusion Evaluation Kit Quickstart Card. The source files are posted with the SmartFusion Webserver Demo Using uIP and FreeRTOS document:

[www.microsemi.com/soc/products/hardware/devkits\\_boards/smartfusion\\_eval.aspx](http://www.microsemi.com/soc/products/hardware/devkits_boards/smartfusion_eval.aspx)

## Running the Manufacturing Test

You can run the manufacturing test to verify the device and board connections. The manufacturing test files are available from the SmartFusion Evaluation Kit web page. Instructions on how to run the test are available in the *SmartFusion Evaluation Kit User's Guide*.

## Software and Licensing

The SmartFusion Evaluation Kit is supported by Libero<sup>®</sup> System-on-Chip (SoC) v10.0 or later, which includes a web install option. SoftConsole Software IDE and FlashPro are enabled by default in the web install; these software tools can be used for software design and debug. SmartFusion is also supported by Keil and IAR Systems, which can be installed separately. Refer to the *SmartFusion Evaluation Kit User's Guide* for more information.

Software releases: [www.microsemi.com/download/software/libero](http://www.microsemi.com/download/software/libero)

Keil and IAR information: [www.microsemi.com/soc/products/smartfusion/ecosystem.aspx](http://www.microsemi.com/soc/products/smartfusion/ecosystem.aspx)

Libero SoC v10.0 requires a valid Gold, Platinum, or Standalone Libero license.

If you need a new license, select FREE Libero SoC Gold license and request a new one from your Microsemi Customer Portal account. This license supports all tools for designing with the SmartFusion family and associated development kits.

License updates: [www.microsemi.com/soc/Portal/default.aspx?r=1](http://www.microsemi.com/soc/Portal/default.aspx?r=1)

## Documentation Resources

For further kit information, including user's guide, tutorial, and full design examples, refer to the SmartFusion Evaluation Kit page:

Documentation: [www.microsemi.com/soc/products/hardware/devkits\\_boards/smartfusion\\_eval.aspx](http://www.microsemi.com/soc/products/hardware/devkits_boards/smartfusion_eval.aspx)

As new demos and tutorials become available, they will be posted on the SmartFusion Evaluation Kit. Microsemi recommends that you sign up for Product Updates to be notified when new material is available. You can sign up for product updates from your Microsemi Customer Portal account.

Product updates: <https://www.actel.com/portal/default.aspx?r=2>

## Technical Support and Contacts

Technical support is available online at [www.microsemi.com/soc/support](http://www.microsemi.com/soc/support) and by email at [soc\\_tech@microsemi.com](mailto:soc_tech@microsemi.com).

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